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RONALD A KRASNOW
SYMYX TECHNOLOGIES
3100 CENTRAL EXPRESSWAY
SANTA CLARA CA 95051

EXAMINER

BROWN, J

ART UNIT PAPER NUMBER

1741

DATE MAILED: 09/01/99

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

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Office Action Summary

Application No.
09/119,187

Applicant(s)
Warren et al.

Examiner
J. Brown

Group Art Unit
1741



☐ Responsive to communication(s) filed on _____.

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-37 is/are pending in the application.

Of the above, claim(s) 1-18 and 25-37 is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 19-24 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 1-2

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Election/Restriction

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-9, drawn to method, classified in class 205, subclass 91.
- II. Claims 10-18, drawn to product, classified in class 204, subclass 400+.
- III. Claims 19-24, drawn to method, classified in class 205 , subclass 122.
- IV. Claims 25-29, drawn to apparatus, classified in class 204, subclass 275.
- V. Claims 30-34, drawn to apparatus, classified in class 204, subclass 400+.
- VI. Claim 35-37, drawn to method, classified in class 205, subclass 775+.

2. The inventions are distinct, each from the other because of the following reasons.

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the process of I can be used to make a materially different product: an array without an insulative layer, for example.

3. Inventions I and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together, or they have different modes of operation, or they have

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different functions, or they have different effects. (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different functions. Group I is a method of manufacturing an electrode array. Group III is a method of dispensing materials on an electrode array, not necessarily the specific electrode array manufactured by the process of Group I.

4. Inventions I and IV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together, or they have different modes of operation, or they have different functions, or they have different effects. (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different functions. Group I is a process for the manufacture of an electrode array. Group IV is an apparatus for delivering a coating to an electrode array, not necessarily the specific array of Group I.

5. Inventions I and V are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together, or they have different modes of operation, or they have different functions, or they have different effects. (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different functions. Group I is a process for the manufacture of an electrode array. Group V is an apparatus for screening an array of materials having an array of individual electrodes, but not necessarily the specific electrode array of Group I.

6. Inventions I and VI are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together, or they have different modes of operation, or they have different functions, or they have different effects. (MPEP § 806.04, MPEP § 808.01). In the

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instant case the different inventions have different functions. Group I is a process for manufacturing an electrode array. Group VI is a method of testing a specific property of a material using an electrode array, but not necessarily the specific array of Group I.

7. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Groups II-VI, restriction for examination purposes as indicated is proper.

8. During a telephone conversation with Ronald Krasnow on 8/3/99, a provisional election was made with traverse to prosecute the invention of Group III, claims 19-24. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-18 and 25-37 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

9. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(I).

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Title

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The examiner suggests a title more directed to the specific claims examined in this action.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

11. Claims 19 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Barrett (4,689,246).

In regard to claim 19, Barrett discloses a method for depositing diverse materials onto an array of individually addressable electrodes (col. 2, lines 16-24 and col. 4, lines 38-48) that includes having an array of individually addressable electrodes, a power source, and reference and counter electrodes (col. 2, line 64-col. 3, line 15, col. 3, lines 34-48 and col. 5, lines 12-15), and delivery of a mixture of source materials to predetermined locations on the array with deposition of the source materials on a given electrode of the array (col. 2, lines 36-48, col. 3, lines 11-19 and 27-30 and col. 5, lines 5-7).

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In regard to claim 23, Barrett discloses changing the length of the deposition time and varying the counter ions to optimize process performance (col. 2, lines 27-48 and col. 3, lines 29-34).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barrett (4,689,246).

In regard to claim 24, Barrett appears to be silent as to the deposition program used. However, it would have been obvious to have employed some type of program in the process because it is well within the art that the specific parameter controlled would have been a matter of optimization within the art, depending upon such factors as type of substrate, coating rate desired, type of coating material, electrolyte employed, uniformity of coating desired and desired parameter to control.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barrett as applied to claim 19 above, and further in view of Lester (5,100,524) and Bok et al. (5,695,833).

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In regard to claim 20, Barrett and Dehnert are as applied, argued and set forth in claim 19 above and incorporated herein.

Barrett does not appear to disclose delivery of source materials by positioning a deposition head over an electrode on the array and activating a predetermined number of syringe pumps to deliver a predetermined composition of source materials to the locations on the array.

However, Lester discloses the use of fluid-dispensing heads positioned over an area to be coated and a pump to effectively deliver a predetermined composition to a specific electronic area to be coated (col 1, lines 35-39 and 58-61, col. 2, lines 10-38 46-48, col. 3, lines 8-12 and Figs. 1-3).

Therefore, it would have been an obvious modification to have used the fluid-dispensing heads and pump system of Lester with the electrode arrays of the Barrett apparatus because Lester teaches that this would have increased the precision of the coating and reduced waste of coating material which would have been a precise and effective method of delivery that would have increased the quality and cost-efficiency of the process. It would have been further obvious to have modified the Lester apparatus for coating of the electrode array of Barrett because it is well within the art that these are related electronic components requiring coating over similarly precise areas

The Barrett combination appears to be silent as to the type of pump used,

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However, Bok et al. teach that syringe pumps can be used to quickly and effectively deliver a controlled amount of material to a suitably precise area for deposition (col. 1, lines 6-11 and col. 8, lines 53-58).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used syringe pumps to achieve the fine-scale material deposition required of the Barrett combination as taught by Bok et al. because Bok et al. teach that this would have been a highly effective way to control deposition rates, use of the syringe pumps depending upon such factors as precision of amounts of fluids moving through the heads required, type of pumping required of the process and cost and availability of various pump systems.

Claims 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barrett, Lester (5,100,524) and Bok et al. (5,695,833) as applied to claim 20 above and further in view of Vecellio (4,539,932).

In regard to claims 21-22, the Barrett combination does not appear to disclose the use of robotics to position the deposition head over the electrode, or positioning it at a pre-determined distance above the electrode.

However, Vecellio teaches that robotics can be used to repeatedly deposit material onto a surface, at a pre-determined distance above the surface, with desired

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precision, the risk to humans who would otherwise perform the process eliminated, wasted material greatly reduced and the desired level of precision repeated more often (col. 1, lines 6-11 and col. 3, lines 9-22 and 57-62).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used robotics to control material deposition at a pre-determined distance above the deposition surface as taught by Vecellio in the Barrett process apparatus because Vecellio teaches that this would have increased the quality of the process while reducing waste and safety risks.

Other references

The following reference, though not cited in this action, are believed by the examiner to be relevant: Dehnert (4,082,619) and Finkelstein et al. (5,556,530).

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Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Brown, whose telephone number is (703) 305-0268. The examiner can normally be reached on Monday through Thursday from 7:30 a.m. to 6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathryn Gorgos, can be reached on (703) 308-3328. The fax phone number for this Group is (703) 305-7719. The fax number after a final action is (703) 305-3599.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

JGB

8/23/99


Kathryn Gorgos
Supervisory Patent Examiner
Technology Center 1700